

Acquiring (illocutionary) complementisers: Preliminary insights from Catalan and Spanish, and beyond

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I. Introduction

The development of complementisers

Initial observations

- Acquisition of **complementisers** and subordination typically taken to be a crosslinguistically **relatively late phenomenon** in child language (e.g., Armon-Lotem, 2005; Clahsen and Penke, 1992).
- Earliest forms include so-called *preconjunctivals*. The emergence of subordinators, such as Catalan and Spanish *que*, is a later development.
 - Often accounted for via 'bottom-up' approaches to syntactic development, whereby the CP is acquired last (Radford, 1988; Rizzi, 1994; Friedmann et al., 2021; Diercks et al., 2023).

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 - Often accounted for via 'bottom-up' approaches to syntactic development, whereby the CP is acquired last (Radford, 1988; Rizzi, 1994; Friedmann et al., 2021; Diercks et al., 2023).
- However, notable **gap** in acquisition data so far → acquisition of *illocutionary complementisers* in Ibero-Romance (Corr, 2016, 2022).
 - Complementisers that do *not* function as a subordinator and instead introduce **non-embedded matrix** clauses, with several **illocutionary functions**.

The development of complementisers

Initial observations

(1) Subordinating complementisers

- a. *Li he dit **que** aquesta tarda vaig a Barcelona* (Catalan)
CL.IO= AUX.1SG told that this afternoon go.1SG to Barcelona

'I have told him/her that I'm going to Barcelona this afternoon to see a concert in El Liceu.'

- b. *No podía creer **que** hubiesen ganado la lotería* (Spanish)
not can.IMPF.3SG believe that AUX.SUBJ.IMPF.3PL won the lottery

'He/she couldn't believe that they'd won the lottery.'

(2) Illocutionary complementisers

- a. *Aí, **que** t'atrapo!* (Catalan)
hey that.EXCL CL.DO=catch.1SG

'I'm coming to get you!'

(Corr, 2016, p. 88)

- b. *No hagas esto, **que** luego mamá se enfada* (Spanish)
not do.SUBJ.2SG this that.CONJ then mum CL.REFL= get.angry.3SG

'Don't do this, because then mum gets angry.'

In a nutshell

1. Introduce *illocutionary* complementisers, including their typology in Ibero-Romance and their syntactic properties.
2. (Selective overview of) approaches to syntactic development.
3. Results of a *corpus study* with CHILDES on 5 Catalan and 5 Spanish children, comparing emergence of illocutionary vs embedding complementisers and testing the approaches' predictions.
4. Preliminary look at Italo-Romance data and its potential insights.

1. Introduction
2. Illocutionary complementisers in Ibero-Romance
3. Theoretical background and hypothesis
4. Corpus study
 - Methodology
 - Results
5. Discussion and theoretical implications
 - Theoretical implications
 - Future directions: first impressions on Italian child data
6. Conclusion
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8. References

2. Illocutionary complementisers in Ibero-Romance

Illocutionary complementisers in Ibero-Romance

Typology and syntactic properties

- A conspicuous property of Ibero-Romance is the use of the complementiser *que* to introduce *matrix* clauses with a range of illocutionary functions (besides its use as a subordinator).
- Four types, largely following (Corr, 2016): *exclamative*, *quotative*, *conjunctive* and *interrogative*.

(3) Exclamative *que*

Alça, **que** ho has llençat tot al terra! (Catalan)
hey **that.EXCL** CL.DO= AUX.2SG throw.PART everything on.the floor

'Hey! You've thrown everything on the floor!'

Illocutionary complementisers in Ibero-Romance

Typology and syntactic properties

- (4) **Quotative *que***. Context: the speaker is asked who had just phoned
*Era Carmen. **Que** me llamaba para felicitar-me* (Spanish)
was Carmen that.QUOT CL.DO= phone.IMP.F.3SG to congratulate=CL.DO

‘It was Carmen. She phoned me to wish me a happy birthday.’

- (5) **Conjunctive *que***
*No li diguis això a la Paula **que** és un secret* (Catalan)
not CL.IO= tell.SUBJ.2SG this to the Paula that.CONJ is a secret

‘Don’t tell this to Paula because it’s a secret.’

Illocutionary complementisers in Ibero-Romance

Typology and syntactic properties

- (6) **Interrogative *que*** (available in Catalan, marginal in Spanish)

Que *vindràs* *al final* *a veure* *la pel·lícula?*
that.INT come.FUT.2SG in.the end to watch.INF the film

(Catalan)

‘Are you coming to watch the film in the end?’

- Also instances of Adjective/Adverb + *que* (Cruschina and Remberger, 2018), and cases of emphatic polarity particles + *que* (Batllori and Hernanz, 2013):

- (7) a. *¡Claro que entendió!*
clear that understand.PST.3SG

(Spanish)

‘Of course he/she understood!’

- b. *Sí que val la pena, tenies raó*
yes that cost.3SG the struggle have.IMPF.2SG right

(Catalan)

‘It certainly is worth it, you were right.’

Illocutionary complementisers in Ibero-Romance

Typology and syntactic properties

✍ Corr (2016):

- Exclamative and conjunctive *que* in a higher **Speech-Act domain** (dominating CP).
- Quotative *que* in the **CP domain** (see also Corr, 2022, for a revised treatment).

✍ Prieto and Rigau (2007):

- Interrogative *que* is C-based: in Fin.
- Embedding complementisers standardly **C-heads** and, in cartographic approaches, typically in Rizzi's (1997) highest Force head.

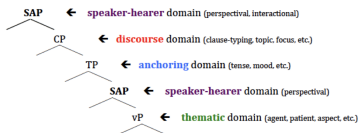


Figure 1: Clausal structure with speech-act layers (Biberauer, 2018, p. 4).

👍 Like embedding complementisers, illocutionary complementisers are also **structurally very high** elements.

3. Theoretical background and hypothesis

Theoretical background

Approaches to syntactic development

💡 Contrasting the acquisition of these two complementisers is **potentially instructive** in (at least) **three ways**:

- Possible developmental differences between complementisers (speaker-hearer-oriented and main-clause vs embedded-clause).
- Informs us about the development of (some) speech-act-related material and interactional language (highly understudied domain).
- Brings a new piece of adjudicating evidence for contemporary acquisition hypotheses.

→ Focus here – brief and selective overview of (generative) approaches to syntactic development.

- Bottom-up approaches
- ‘Inward’ approaches

(I set aside Continuity approaches for time considerations)

Theoretical background

Approaches to syntactic development

- **Bottom-up development:** the development of **structurally-lower elements precedes** that of **structurally-higher** ones. Therefore, general acquisition timeline is $vP \rightarrow TP \rightarrow CP$ (i.a., Radford, 1988; Rizzi, 1994; Friedmann et al., 2021; Diercks et al., 2023).
- Arguably the **dominant** perspective in maturational or non-continuity approaches.

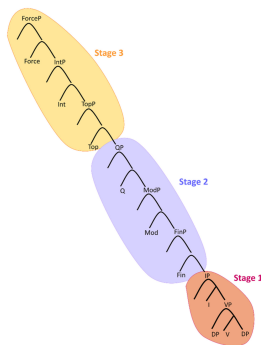


Figure 2: Stages of acquisition of the clausal domain in the Growing Trees Hypothesis (Friedmann et al., 2021, p. 12)

Theoretical background

Approaches to syntactic development

- **Inward development:** development **begins** in ‘structural **edges**’, meaning the vP domain and (part of) the CP (and, in some approaches, Speech-Act) domain emerge early, before the TP domain (variously entertained; Galasso, 2003; Tsimpli, 2005; van Kampen, 2010; Biberauer and Roberts, 2015; Biberauer, 2019; Heim and Wiltschko, 2021).

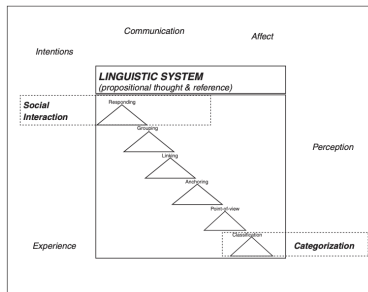
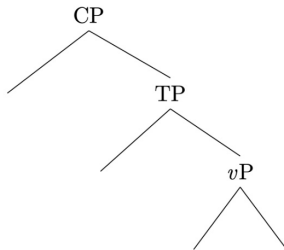


Figure 3: Bridge Model (Hinzen and Wiltschko, 2022)

Theoretical background

Approaches to syntactic development

Bottom-up



Inwardly



Theoretical background

Approaches to syntactic development

Predictions for the development of complementisers

- **Bottom-up development:** expects **all** elements in the (higher) **left periphery** to emerge at the **very end** of the learning path → **both** kinds of complementisers should emerge substantially **late**.
- **Inward development:** expects a possible **developmental mismatch** → if the CP emerges early, **early production** of **(some) illocutionary complementisers** is anticipated. Subordinating complementisers might develop later as they require knowledge of embedding.

4. Corpus study

Structures analysed

- Summarising the foregoing discussion, the following structures were analysed in every corpus:
 1. **Illocutionary complementisers**
 - a) Exclamative
 - b) Conjunctive
 - c) Quotative
 - d) Interrogative (in Catalan only)
 - e) Adverb/adjective + *que*
 - f) (Topic) *sí/no que* ('yes/no that')
 2. **Subordinating complementisers**
 - a) Complement clauses
 - b) Relative clauses introduced by *que*

Methodology

- Using CLAN, we automatically extracted all occurrences of *que* and their conversational contexts for 10 Catalan and Spanish children in CHILDES (MacWhinney, 2000).

Table 1: Children studied in the CHILDES database and summary information.

Language	Corpus	Children	Age range	Files analysed	MLUw range
Catalan	Serra/Solé	Laura	1;07-4;00	19	1.03-3.47
		Gisela	1;07-4;02	20	1.02-3.51
		Àlvar	1;02-3;01	21	1.07-3.37
		Guillem	1;01-4;00	34	1.01-3.88
	Júlia	Júlia	1;07-2;06	17	1.15-2.74
Spanish	Llinàs/Ojea	Irene	0;11-3;02	40	1.0-4.94
		Yasmin	1;10-2;09	47	1.29-3.21
	Aguado-Orea/Pine	Juan	1;10-2;05	65	1.34-3.39
	Aguirre	Magín	1;07-2;10	29	1.24-3.07
	Vila	Emilio	0;11-4;08	35	1.0-3.23

Results

- This yielded $N = 1318$ utterances from children aged 0;11 to 4;08 that contained a complementiser. 1009 of them (76.6%) corresponded to examples with illocutionary and 309 corresponded to subordinating complementisers (23.4%).

Table 2: Proportion of use by type of complementiser.

Language	Children	Illocutionary	Embedding
Catalan	Laura	154 (76.2%)	48 (23.8%)
	Gisela	148 (73.6%)	53 (26.4%)
	Àlvar	9 (60%)	6 (40%)
	Guillem	85 (81%)	20 (19%)
	Júlia	3 (75%)	1 (25%)
Spanish	Irene	58 (64.4%)	32 (35.6%)
	Yasmin	36 (85.7%)	6 (14.3%)
	Juan	164 (67.2%)	80 (32.8%)
	Magín	248 (84.1%)	47 (15.9%)
	Emilio	104 (86.7%)	16 (13.3%)
Total		1009 (76.6%)	309 (23.4%)

Results


Order of emergence

- Results reveal two key trends. These regard (i) **order of emergence** and (ii) **syntactic productivity and lexical (non)specificity**.

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 **First generalisation** → **illocutionary** complementisers typically appear well *before* **embedding** complementisers and never later (in two children only, they emerge simultaneously).

(Full developmental trajectories for every child, file by file, are available in the Appendix)

Table 3: Emergence of illocutionary and embedding complementisers.

Language	Children	Illocutionary	Embedding
Catalan	Laura	1;10.22	3;00.02
		1.15 MLUw	2.42 MLUw
	Gisela	1;08.24	2;08.00
		1.13 MLUw	2.61 MLUw
	Álvar	2;02.06	2;06.25
		1.84 MLUw	1.91 MLUw
	Guillem	2;02.28	2;11.25
		1.54 MLUw	2.44 MLUw
	Júlia	2;06.25	2;06.25
		2.74 MLUw	2.74 MLUw
Spanish	Irene	1;08.09	1;09.10
		1.88 MLUw	3.28 MLUw
	Yasmin	1;10.08	2;05.18
		1.93 MLUw	2.47 MLUw
	Juan	1;11.11	2;01.21
		1.58 MLUw	1.77 MLUw
	Magín	1;09.01	1;10.00
		1.78 MLUw	2.73 MLUw
Emilio	2;04.17	2;04.17	
	2.18 MLUw	2.42 MLUw	
Average		1.67 MLUw	2.42 MLUw

Results

Order of emergence

- On average, the two kinds of complementisers emerged at the following word-based MLU (MLUw) values:

Table 4: Average and range of MLUw values across language groups for the emergence of illocutionary and embedding complementisers.

	Illocutionary	Embedding
Catalan	MLUw 1.41 (range 1.13-1.84)	MLUw 2.35 (range 1.91-2.61)
Spanish	MLUw 1.87 (range 1.58-2.18)	MLUw 2.49 (range 1.77-3.28)
Combined	MLUw 1.67 (range 1.13-2.18)	MLUw 2.42 (range 1.77-3.28)

- A paired-samples t-test confirms that there was a highly statistically significant difference of 0.5456 between the MLUw value of emergence of illocutionary ($M = 1.67$, $SD = 0.35$) vs embedding complementisers ($M = 2.42$, $SD = 0.45$), with the former being much more likely to emerge significantly earlier ($t(17) = 5.6201$, $p < 0.001$).

Results

Order of emergence

(8) Illocutionary complementisers

- a. **Que** *ja no fa mal?* (Guillem; MLUw 1.99)
that.INT already not make.3SG pain

'Does it not hurt anymore?'

- b. *Ai, que crema!* (Laura; MLUw 1.35)
ouch that.EXCL burn.3SG

'Ouch, it's burning!'

- c. **Que** *no quiero* (Juan; MLUw 1.58)
that.QUOT not want.1SG

'(I said) I don't want to.'

- d. *Ay, no, que me harán daño a* (Emilio; MLUw 2.2)
ouch no that.CONJ CL.IO= do.FUT.3PL harm to

la barriga
the tummy

'Ouch, no, they'll hurt my tummy'

Results

Order of emergence

(9) Embedding complementisers

- a. *Una vegada hi havia un nen **que** es* (Júlia; MLUw 2.74)
one time CL.LOC= AUX.IMPF.3SG a boy that CL.REFL=

diu Andreu
say.3SG Andreu

‘Once upon a time, there was a boy named Andreu.’

- b. *En una capsa **que** hi ha aquí* (Àlvar; MLUw 2.82)
in a box that CL.LOC= AUX.3SG here

‘In a box that’s here.’

- c. *Quiero **que** sea un zapato* (Yasmin; MLUw 2.47)
want.1SG that be.SUBJ.3SG a shoe

‘I want it to be a shoe.’

- d. *¿No ves **que** estaba con la pelota?* (Irene; MLUw 3.23)
not see.2SG that was with the ball

‘Don’t you see it was next to the ball?’

Results

Frequency and lexical (non)specificity

- ② What's the **nature** of these early illocutionary complementisers (productive, lexically-specific, rote-learned, etc.)?
- A look at the **frequency** and **lexical (non)specificity** of the earliest uses of illocutionary complementisers reveal likely *syntactically productive* knowledge.

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- A look at the **frequency** and **lexical (non)specificity** of the earliest uses of illocutionary complementisers reveal likely *syntactically productive* knowledge.
- 👍 Second generalisation: Before embedding complementisers first emerge, early illocutionary complementisers are *neither infrequent nor lexically-specific*.

Table 5: Types of verbs with illocutionary complementisers before the emergence of embedding complementisers and overall frequency of illocutionary complementisers at this point

	Unacc	Unerg	Trans	Modal	Copula	Impers	Freq
Laura	✓		✓	✓	✓	✓	20
Gisela	✓	✓	✓	✓	✓		7
Àlvar					✓		1
Guillem	✓	✓	✓	✓		✓	11
Irene			✓				1
Yasmin	✓	✓	✓		✓	✓	18
Juan	✓	✓	✓		✓		10
Magín	✓		✓				10

Results

Frequency and lexical (non)specificity

Frequency

- Illocutionary complementisers emerge early, *and* they are also frequent in most children before embedding complementisers emerge.

Lexical variety

- For most children, illocutionary complementisers can be found with a **wide range of verb classes**, indicating these complementisers likely do **not form part of rote-learned formulae**.
- Combined together, these points strengthen the hypothesis that illocutionary complementisers are **acquired early**, before embedding complementisers, and in a *productive* manner.

Results

Overall development

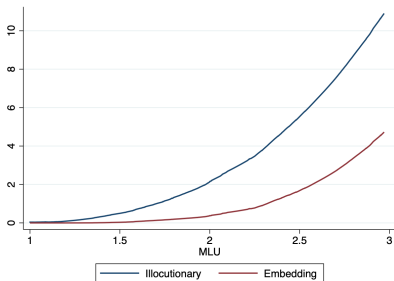


Figure 4: The development of complementisers in the Catalan and Spanish children.

- Illocutionary complementisers both **emerge earlier** and **develop faster** in frequency than their subordinating counterparts (Kolmogorov-Smirnov test indicates that the two curves are *not* equal, $D = 2.0000$, $p < .001$)

5. Discussion and theoretical implications

Theoretical implications

- **'Developmental mismatch'** supports common predictions made by approaches that anticipate **early emergence of the CP/SAP domains** ('inward development' approaches).
- Early emergence, frequency and lexical variety lend credence to these conclusions.

Theoretical implications

- ‘**Developmental mismatch**’ supports common predictions made by approaches that anticipate **early emergence of the CP/SAP domains** (‘inward development’ approaches).
- Early emergence, frequency and lexical variety lend credence to these conclusions.
- Significant consequences for bottom-up approaches (‘late CP’) → *not all complementisers are equally stagnant*.
 - Open question whether the patterns can be reconciled with bottom-up maturation. I preliminarily suggest that bottom-up approaches are not well-suited to account for this data (see also Bosch, 2023, for other empirical evidence).
 - Instead, results point, in a novel way, to an acquisitionally advantaged role of peripheries and edges, interactional language and the CP domain more broadly.

Future directions

First impressions of Italian child data

- Illocutionary complementisers also occur in **Italo-Romance** (in a more restricted form than Ibero-Romance), e.g., CIDs and NIDs generally allow some conjunctive uses of *che*, exclamative *che* (typically with subjunctive mood) and, in some varieties, interrogative *che* (Cruschina and Remberger, 2016).
- 💡 Preliminary look at CHILDES Italian data → **attested relatively early** on *and* in **creative configurations** that are ungrammatical in many Italian varieties and unattested in their parental input (according to 3 Italian informants).

(10) a. **Ch** *gira* (Martina; 1;11.02, MLUw 1.99)
that stir.3SG

'He/she/it stirs (it)'

b. **Ch** *legge* (Martina; 1;08.02, MLUw 1.9)
that read.3SG

'She is reading' (in response to *Diglielo alla mamma cosa fa la bimba*, 'tell mum what the child is doing')

Future directions

First impressions of Italian child data

(11) a. ***Che*** *ride!* (Martina; 1;11.02, MLUw 1.99)

that.EXCL laugh.3SG

'He/she is laughing!'

b. ***Che*** *piove* (Martina; 2;01.12, MLUw 1.99)

that.CONJ rain.3SG

'It's raining' (in response to *l'ombrello?*, 'the umbrella?', asking what someone was doing with an umbrella)

- All examples pre-date the emergence of embedding *che* in Martina (at 2;03.01 and MLUw 2.55).

Future directions

First impressions of Italian child data

- This apparent (over)generalisation of interactionally-oriented functions of *che* extends to later developmental stages:

(12) a. *Oh, che c'ha un lunghi* (Diana; 2;06.00, MLUw 5.53)
oh **that.EXCL** CL.LOC=have.3SG a long.PL

pelosi!
hairy.PL

(lit.) 'Oh, there's a long hairy!' (possibly meaning 'There's (a) long hair(s)!')

b. **Ch** *io ti chiudo la bocca,* (Diana; 2;06.00, MLUw 5.53)
that.QUOT I CL.IO= close.1SG the mouth

sai?
know.2SG

'(I've said) I'll shut your mouth, you know?'

Future directions

First impressions of Italian child data

- (13) a. **Ch** lo metto qui! (Elisa; 2;01.06, MLUw 4.47)
that.QUOT CL.DO= put.1SG here

‘(I’ve said) I’m putting this here’ (uttered after *lo metto qui*)

- b. E **ch** vuoi un posto tu? (Marco; 2;01.27, MLUw 2.16)
and **that.INT** want.2SG a place you

‘And do you want a place?’

All data taken from the following CHILDES corpora: Calambrone (Martina and Diana) and Tonelli (Elisa and Marco), from children growing up in Central/Northern Italy

Future directions

First impressions of Italian child data

- Creative, illocutionary ‘inventions’ (overgeneralisations) in child Italian.

Table 6: Distribution of illocutionary complementisers across grammars

	EXCL	CONJ	QUOT	INT
Catalan	✓	✓	✓	✓
Spanish	✓	✓	✓	
CIDs/NIDs	(✓)	✓		(✓)
SIDs	✓	✓	✓	✓
It. children	✓	✓	✓	✓

- Possible stage in which children ‘maximise’ the use of illocutionary *che*. They exploit a grammatical option which is only occasionally present in the adult input and capitalise on the structural/representational options available in their growing system (reminiscent of the case study on DOM in Belletti, 2022).
 - Similar ‘errors’ may be theoretically elucidating regarding children’s use of speaker-hearer-related items and the formal status of children’s representations.

6. Conclusion

Conclusion

- **Two complementisers, two acquisition timings: Illocutionary complementisers** *before subordinating complementisers*, problematising bottom-up approaches to development.

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- 👍 I interpreted them as **favouring 'inward development' approaches** → argument for early emergence of a CP/Speech-Act domain.
- **Further work** needed:
 - Other (Ibero-)Romance varieties (e.g., Portuguese).
 - **Italo-Romance** data shows *initial promise* → early emergence of illocutionary complementisers + (over)generalisation to target-deviant speaker-hearer functions (concordant with several inward development approaches).
 - Comprehension/behavioural studies
 - Alternative explanations for the patterns?

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 - Comprehension/behavioural studies
 - Alternative explanations for the patterns?
- 👍 More broadly, further study on the acquisition of **speaker-hearer** and **discourse-oriented** material will help elucidate the formal make-up of early grammars.

Thank you!

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Slides  →
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SCAN ME

7. Appendix: additional graphs

Appendix

Catalan data

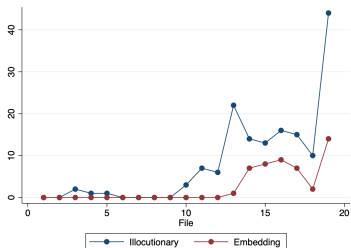


Figure 5: Laura's development

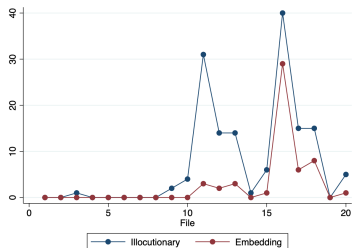


Figure 6: Gisela's development

Appendix

Catalan data

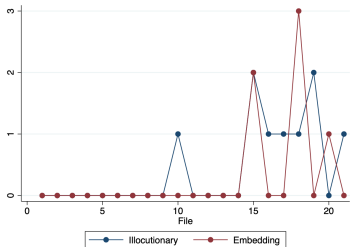


Figure 7: Àlvar's development

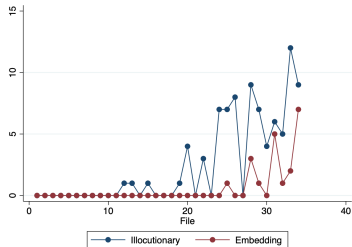


Figure 8: Guillem's development

Appendix

Catalan data

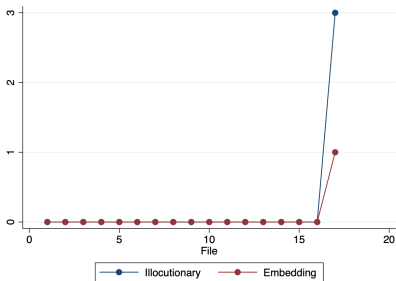


Figure 9: Júlia's development

Appendix

Spanish data

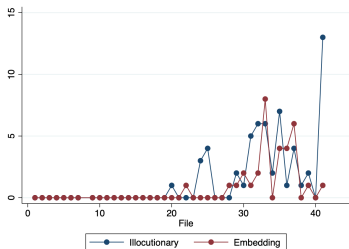


Figure 10: Irene's development

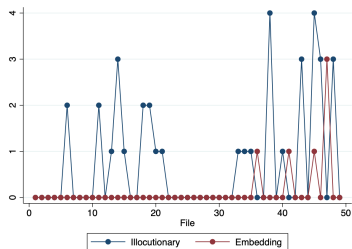


Figure 11: Yasmin's development

Appendix

Spanish data

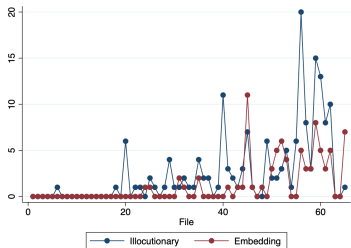


Figure 12: Juan's development

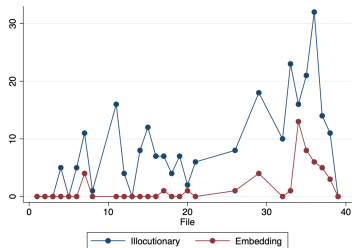


Figure 13: Magín's development

Appendix

Spanish data

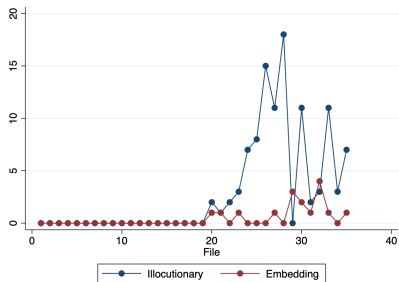


Figure 14: Emilio's development

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